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The Mineral Industry of Maryland

UNITED STATES DEPARTMENT OF THE INTERIOR

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This publication is a chapter from the current Bureau of Mines Minerals Yearbook, comprising *Volume I, Metals and Minerals; Volume II, Area Reports: Domestic; Volume III, Area Reports: International.* The separate volumes of the Yearbook are sold by the Superintendent of Documents, Washington, D.C. 20402.

The Mineral Industry of Maryland

This chapter has been prepared under a Memorandum of Understanding between the Bureau of Mines, U.S. Department of the Interior, and the Maryland Geological Survey for collecting information on all nonfuel minerals.

By L. J. Prosser, Jr.[1]

The value of nonfuel mineral production in Maryland in 1987 was $345 million. Output of all of the State's mineral commodities continued to increase, boosting value to its highest mark in State history.

Table 1.—Nonfuel mineral production in Maryland[2]

Mineral	1985		1986		1987	
	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)
Cement (portland) thousand short tons	W	W	1,765	$69,799	1,829	$90,029
Clays do	r316	r$1,647	r362	r1,737	283	1,949
Gem stones	NA	r2	NA	2	NA	2
Lime thousand short tons	10	606	10	540	9	486
Sand and gravel (construction) do	r17,000	r56,000	18,173	60,925	r19,000	r92,000
Stone:						
Crushed do	24,806	99,584	r26,400	r126,000	30,130	151,579
Dimension do	18	1,271	r21	r1,286	20	1,516
Combined value of cement (masonry), clays (ball clay, 1985-86), peat, sand and gravel (industrial), and value indicated by symbol W	XX	86,215	XX	7,927	XX	6,068
Total	XX	256,274	XX	333,340	XX	345,334

r Estimated. NA Not available. W Withheld to avoid disclosing company proprietary data; value included with "Combined value" figure. XX Not applicable.
[1]Production as measured by mine shipments, sales, or marketable production (including consumption by producers).
[2]Excludes certain clays; kind and value included with "Combined value" figure.

Table 2.—Nonfuel minerals produced in Maryland in 1986, by county[1]

County	Minerals produced in order of value
Anne Arundel	Sand and gravel (construction)
Baltimore	Sand and gravel (construction), clays
Baltimore City	Sand and gravel
Calvert	Do.
Caroline	Do.
Carroll	Cement, clays
Cecil	Sand and gravel (construction)
Charles	Do.
Dorchester	Do.
Frederick	Cement, clays, lime
Garrett	Sand and gravel (construction), peat
Harford	Sand and gravel (construction)
Kent	Clays
Prince Georges	Sand and gravel (construction), clays
Queen Annes	Sand and gravel (construction)
Saint Mary's	Do.
Somerset	Do.
Washington	Cement, clays
Wicomico	Sand and gravel
Worcester	Do.
Undistributed[2]	Stone (crushed), gem stones

[1]No production of nonfuel mineral commodities was reported for counties not listed.
[2]Data not available by county for minerals listed.

Trends and Developments.—Beginning in 1983 and continuing through 1987, demand from the construction industry as a result of the State's expanding economy and increasing population boosted mineral production to unprecedented levels. Maryland's combined output of crushed stone and sand and gravel increased by 100% or 24.8 million short tons from 1982 to 1987. The State's population increased by 7% during these 5 years; and the population density (persons per square mile) increased from 422 to 461, fifth highest in the Nation.

This sustained period of above-average mineral production, coupled with a growing populace, exacerbated the situation between environmental and mining concerns. The mining industry, when planning to expand or develop operations, was typically required to address local concerns about the impact of such actions. Balancing environmental considerations and natural resources development in land-use planning has become increasingly difficult in Maryland; and, in many cases, the decision has been finalized only through the courts.

Generally, expanding urbanization also restricts resource availability when, because of inadequate land-use planning, structures are built near or atop mineral deposits. The consequences are increases in both consumer cost and environmental damage while creating or continuing adversarial relationships between mineral producers and the market community that uses the mineral products.[2]

Legislation and Government Programs.—The Maryland Legislature responded to oil exploration in Chesapeake Bay and the Potomac River by passing a series of bills regulating drilling in the State. These bills prohibited drilling for oil or gas in Chesapeake Bay and its tributaries, increased bond requirements and liability insurance for companies drilling for oil and gas in the State, and required an environmental impact statement for oil and gas projects sited on State lands. The legislation was enacted after two major U.S. oil companies conducted tests for oil using sonar equipment.

The Maryland Geological Survey (MGS) conducted geologic and mineral-related studies at facilities in Baltimore. In 1987, the MGS published a directory of mineral producers in the State that listed locations of more than 200 active mining operations.[3]

Maryland created a new government agency primarily responsible for environmental protection. The Maryland Department of the Environment (MDE) assumed the authority for air, water, waste, radiation, and noise control programs previously handled by the Office of Environmental Programs, which was abolished. Department of Natural Resources (DNR) responsibilities for oil control, erosion and sediment control, and stormwater management were also transferred to the MDE.

REVIEW BY NONFUEL MINERAL COMMODITIES

INDUSTRIAL MINERALS

Three mineral commodities—portland cement, construction sand and gravel, and crushed stone—accounted for about 97% of the value of mineral production in Maryland in 1987.

Cement.—Demand for portland cement remained strong for the fourth consecutive year. The State's four plants operated at about 95% of capacity.

Lehigh Portland Cement Co., Union Bridge, requested permission from the DNR Water Resources Administration to pump ground water from a new limestone quarry site near New Windsor. Ground water must be removed before Lehigh can mine the limestone, which is used in cement manufacture. Because of concern by local residents that ground water removal will affect well water supplies or cause sinkholes, the DNR, in cooperation with Lehigh, began a study late in the year to determine the impacts associated with quarry development. Results from the study were not expected until mid-1988.

Sand and Gravel (Construction).—Construction sand and gravel production is surveyed by the U.S. Bureau of Mines for even-numbered years only; this chapter contains estimates for 1985 and 1987 and actual data for 1986. Data for odd-numbered years are based on annual company estimates.

Output of construction sand and gravel reached a record-high level for the third consecutive year in 1987. Nationally, Maryland ranked 15th in the production of sand and gravel. The price of sand and gravel in Maryland was 30% above the U.S. average in 1987 and second highest in the Nation at $4.60 per short ton (plant f.o.b.).

Stone.—Stone production is surveyed by the U.S. Bureau of Mines for odd-numbered years only; this chapter contains actual data for 1985 and 1987 and estimates for 1986. Data for even-numbered years are based on annual company estimates.

Maryland produced about 30.1 million short tons of crushed stone in 1987, the State's highest total ever and the fourth consecutive year of output in excess of 22 million tons. Previously, Maryland's output of crushed stone had peaked in 1979, when 21.6 million tons was produced. During the 4-year period of record-setting production, the State averaged 25 to 30 expansions of existing operations each year, according to DNR's Division of Surface Mining.[4]

Table 3.—Maryland: Crushed stone[1] sold or used by producers in 1987, by use

(Thousand short tons and thousand dollars)

Use	Quantity	Value
Coarse aggregate (+1-1/2 inch):		
Macadam	856	4,501
Riprap and jetty stone	919	4,399
Filter stone	92	479
Coarse aggregate, graded:		
Concrete aggregate, coarse	2,610	11,593
Bituminous aggregate, coarse	992	4,585
Bituminous surface-treatment aggregate	573	3,371
Railroad ballast	104	616
Fine aggregate (-3/8 inch):		
Stone sand, bituminous mix or seal	591	2,353
Screening, undesignated	466	2,440
Coarse and fine aggregates:		
Graded road base and subbase	1,697	8,712
Unpaved road surfacing	502	3,142
Crusher run or fill or waste	4,283	17,890
Other construction	154	565
Chemical and metallurgical: Cement manufacture	2,660	7,914
Special:		
Whiting or whiting substitute	40	4,000
Other fillers and extenders	100	6,000
Other miscellaneous[2]	61	6,089
Other unspecified[3]	13,396	61,733
Total	30,136	[4]151,579

[1]Includes limestone, granite, sandstone, quartzite, shell, traprock, and other miscellaneous stone.
[2]Includes lime manufacture and paper manufacture.
[3]Inclues production reported with a breakdown by end use and estimates for nonrespondents.
[4]Data do not add to total shown because of independent rounding.

Figure 1.—Aggregate-producing districts in Maryland.

Table 4.—Maryland: Crushed stone sold or used by producers in 1987, by use and district

(Thousand short tons and thousand dollars)

Use	District 1		District 2		District 3	
	Quantity	Value	Quantity	Value	Quantity	Value
Coarse aggregate (+1-1/2 inch)[3]	W	W	1,190	5,950	W	W
Coarse aggregate, graded[3]	W	W	2,578	12,306	W	W
Fine aggregate (-3/8)[3]	152	718	906	4,076		
Coarse and fine aggregates[4]	W	W	3,500	15,949	W	W
Other construction	2,275	8,848	130	500	3,104	16,499
Chemical and metallurgical[5]	737	(6)	1,942	(7)		
Special[8]			220	17,000		
Other miscellaneous	3	1,804				
Other unspecified[9]	405	2,075	12,480	61,773	510	4,084
Total[10]	3,571	13,444	22,900	117,552	3,614	20,583

W Withheld to avoid disclosing company proprietary data; included with "Other construction."
[1]Includes macadam, riprap and jetty stone, and filter stone.
[2]Includes concrete aggregate (coarse), bituminous aggregate (coarse), bituminous surface-treatment aggregates, and railroad ballast.
[3]Includes stone sand (bituminous mix or seal) and fine aggregate (screening).
[4]Includes graded road base or subbase, unpaved road surfacing, and crusher run or fill or waste.
[5]Includes cement manufacture and lime manufacture.
[6]Withheld to avoid disclosing company proprietary data; included with "Other miscellaneous."
[7]Withheld to avoid disclosing company proprietary data; included with "Other unspecified."
[8]Includes whiting or whiting substitute, other fillers or extenders, paper manufacture, and roofing granules.
[9]Includes production reported with a breakdown by end use and estimates for nonrespondents.
[10]Data may not add to totals shown because of independent rounding.

The openings and expansions of quarries by producers to meet the demands of the construction industry have, been opposed, in many cases by citizen groups. In some instances, this forced producers to locate farther from markets and increased haulage costs, the price of crushed stone, and ultimately, the cost of construction.

In 1987, the U.S. Bureau of Mines began compiling crushed stone statistics by districts for some States. Table 4 presents end-use date for crushed stone produced in the Maryland districts depicted in figure 1.

Other Industrial Minerals.—Production of ball clay at a small operation in White Marsh ceased in late 1986; common clay used in brickmaking was produced at seven pits in 1987. The State's only lime producer, S. W. Barrick & Sons Inc., Woodsboro, was sold and announced plans to close the lime manufacturing plant in 1988. Laurel Sand & Gravel Inc., the new owner, retained the former company name and intends to mine high-calcium limestone at the site in 1988. Two of the State's four portland cement producers also manufactured masonry cement at plants in Hagerstown and Union Bridge. One company produced industrial sand at a pit in Joppa, and one firm mined peat at a bog near Accident.

[1]State Mineral Officer, Bureau of Mines, Pittsburgh, PA.
[2]Beeby, D. J. Aggregate Producers. Min. Eng., v. 40, No. 1, Jan. 1988, pp. 42-45.
[3]Brooks, J. R. Directory of Mineral Producers in Maryland—1986. MD Geol. Surv. Inf. Circ. 45, 1987, p. 56.
[4]Evening Sun (Baltimore). Progress Brings Road and Quarries. June 27, 1987, p. 5.

Table 5.—Principal producers

Commodity and company	Address	Type of activity	County
Aluminum:			
Eastalco Aluminum Co. (Alumax Inc.)	5601 Manor Woods Rd. Frederick, MD 21701	Reduction plant	Frederick.
Cement:			
Portland:			
Cuplay Cement Co., (Societe des Ciments Français)	4120 Buckeystown Pike Lime Kiln, Box D Frederick, MD 21701	Quarry and plant	Do.
Portland and masonry:			
Independent Cement Corp. (St. Lawrence Cement Inc.)	Box 650 Hagerstown, MD 21740	do	Washington.
Lehigh Portland Cement Co. (Heidelberger Zement AG)	Box L Union Bridge, MD 21791	do	Carroll.
Slag:			
Blue Circle Atlantic[1] (Blue Circle Industries PLC)	Box 6687 Sparrows Point, MD 21219	Plant (slag cement)	Harford.

See footnote at end of table.

Table 5.—Principal producers —Continued

Commodity and company	Address	Type of activity	County
Clays:			
Common clay and shale:			
Baltimore Brick [1] (Merry Co.)	9801 Rocky Ridge Rd. Rocky Ridge, MD 21778	Pits and plants	Baltimore and Frederick.
Maryland Clay Products Inc. (Borden Brick & Tile Co.)	7100 Muirkirk Rd. Beltsville, MD 20705	do.	Frederick and Prince Georges.
Victor Cushwa & Sons Inc.	Clearspring Rd. & Route 68N Box 160 Williamsport, MD 21795	Pit and plant	Washington.
Gypsum:			
Byproduct:			
SCM Corp., SCM Pigments Div.	3901 Glidden Rd. Baltimore, MD 21226	Plant	Baltimore.
Calcined:			
National Gypsum Co., Gold Bond Building Products Div.	2301 South Newkirk St. Baltimore, MD 21[illegible]	do.	Do.
USG Corp.	500 Quarantine Rd. Box 3472 Baltimore, MD 21226	do.	Do.
Iron and steel:			
Bethlehem Steel Corp.	Sparrows Point, MD 21219	Mill (integrated)	Do.
C. J. Langenfelder & Sons	8427 Pulaski Highway Baltimore, MD 21221	do.	Do.
Lime:			
S. W. Barrick & Sons Inc.	Woodsboro, MD 21798	Quarry and plant	Frederick.
Peat:			
Garrett County Peat Products	R.F.D. 1, Box 91 Accident, MD 21520	Bog and plant	Garrett.
Sand and gravel:			
Construction:			
Charles County Sand & Gravel Co. Inc.	Waldorf Industrial Center Box 348 Waldorf, MD 20601	Pits and plant	Anne Arundel, Charles, St. Marys.
Eastern Aggregates Inc.	10 South River Club House Rd. Harwood, MD 20776	Pits and plants	Anne Arundel and Prince Georges.
Inland Materials Inc.	4714 St. Barnabas Rd. Temple Hills, MD 20748	do.	Prince Georges.
Maryland Rock Industries (Florida Rock Industries Inc.)	Box 273 Leonardtown, MD 20650	Pit and plant	St. Marys.
York Building Products Co. Inc., Mason Dixon Sand & Gravel Div.	Pulaski Highway Perryville, MD 21403	do.	Cecil.
Industrial:			
Harford Sands Inc.	Box 25 40 Fort Hoyle Rd. Joppa, MD 21085	do.	Harford.
Stone:			
Crushed:			
The Arundel Corp.[2]	110 West Rd. Baltimore, MD 21204	Quarries and plants	Baltimore, Frederick, Harford.
Genstar Stone Products Inc.[3]	Executive Plaza 4 11350 McCormick Rd. Hunt Valley, MD 21031	do.	Baltimore, Carroll, Frederick, Harford.
Maryland Materials Inc.	Box W North East, MD 21901	Quarry and plant	Cecil.
Rockville Crushed Stone Inc.	Box 407 13900 Piney Meetinghouse Rd. Rockville, MD 20850	do.	Montgomery.
Dimension:			
Patapsco Natural Stone Quarry Inc.	Marriottsville Rd. Marriottsville, MD 21104	do.	Baltimore.
Stoneyhurst Quarries	Box 34463 8101 River Rd. Bethesda, MD 20817	do.	Montgomery.
Weaver Stone Co.	15027 Falls Rd. Butler, MD 21023	do.	Baltimore.
Titanium dioxide (pigments):			
SCM Corp., SCM Pigments Div.	3901 Glidden Rd. Baltimore, MD 21226	Chemical plant	Do.
Vermiculite (exfoliated):			
W. R. Grace & Co., Construction Products Div.	12340 Conway Rd. Beltsville, MD 20705	Plant	Prince Georges.

[1] Also common clay and shale.
[2] Also slag.
[3] Also sand and gravel.

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